Kentucky

CABINET FOR HEALTH SERVICES DEPARTMENT FOR PUBLIC HEALTH DIVISION OF EPIDEMIOLOGY & HEALTH PLANNING

Epidemiologic Notes & Reports

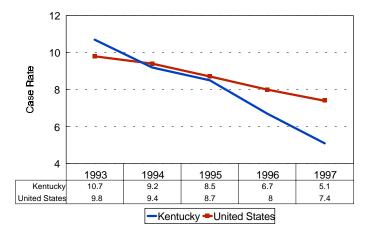
Volume 33 Number 8 August 1998

Tuberculosis in Kentucky: 1997

Kentucky's 1997 tuberculosis (TB) case rate is 31% below the national case rate of 7.4 per 100,000 population. (Figure 1) There were 199 cases of TB reported in the state for 1997, a decline of 60 cases from 1996. During the 5 year period, 1992-1997, the number of TB cases in Kentucky decreased by 203. The 1997 case rate of 5.1 per 100,000 population is less than half of Kentucky's 1992 case rate of 10.7 per 100,000.

A report of TB by age groups for the 1995-1997 period is shown in Figure 2. Note that the rates in the oldest age group declined sharply. However, the 1997 case rate of 19.4 per 100,000 population is more than double the case rate of

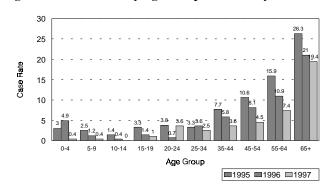
Figure 1. Kentucky vs. United States, Tuberculosis Case



Case Rate = # of cases per 100,000 Population

ratio of 63/37.

Figure 2. Tuberculosis by Age Groups: Kentucky 1995-1997



Case Rate = # of cases per 100,000 Population

the next highest age group (55-64).

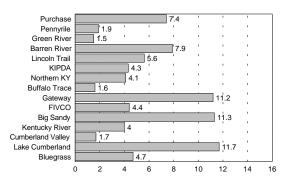
In 1997 there were 131 cases reported in males and 68 in females. The 66/34 male to female case ratio is only slightly different from the 1996 male to female TB case

TB in non-white, non-Hispanic residents declined significantly in 1997. Of the 27 cases reported in this subgroup, 20 were classified as black, non-Hispanic, and the balance as Asian or Pacific Islanders. This is a 35% decrease from the 42 cases reported in 1996. Although the situation is improving, the non-white, non-Hispanic population in Kentucky continues to have a disproportionately high TB case rate.

A distribution of cases by Area Development District (ADD) is presented in Figure 3. The Lake Cumberland District (Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor, and Wayne counties) again recorded the highest TB

Tuberculosis in Kentucky: 1997 (continued from page 1)

Figure 3.Tuberculosis Case Rates-1997 by Kentucky Area Development District



Case Rate = # of cases per 100,000 Population

Figure 4. Percent of Foreign Born Tuberculosis Cases:

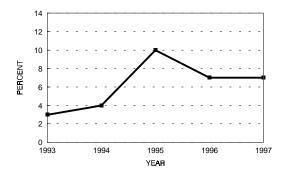
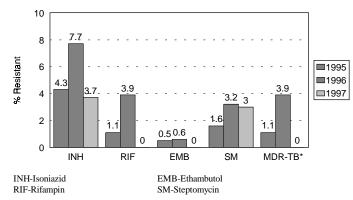


Figure 5. Resistant Tuberculosis - Initial Isolates:



*MDR-TB = Resistant to at least INH & RIF 1995 n=188, 1996 n=150, 1997 n=134 Testing for pyrazinamide resistance is not performed routinely by the Kentucky State Laboratory.

case rate, 11.7 per 100,000 population, for 1997. Clinton County reported the highest rate for the year with a case rate of 75.5 per 100,000. As previously reported, this county has patients with a highly virulent strain of TB.²

(continued-see page 2)

Although the Hispanic migrant farm worker population in Kentucky is small in relation to other states, the number is increasing and is estimated to be in excess of 10,000 persons.³ In 1997, 4 cases were reported in the Hispanic population, 9 in 1996, and 4 in 1995. As reflected in Figure 4, the proportion of cases among those born outside the US has steadily increased and in 1997 accounted for 7% of Kentucky's TB cases. Nationally, 39 % of the newly reported TB cases are among the foreign born, and the TB case rate among foreign-born persons is at least 4 to 5 times higher than that for US-born persons.¹

The initial phase of treatment is crucial for preventing the emergence of drug resistance. The Centers for Disease Control and Prevention (CDC) recommends that 4 drugs (isoniazid, rifampin, pyrazinamide, and either ethambutol or streptomycin) be included in the initial regimen until drug susceptibility tests results are known. However, Kentucky continues to have a drug-resistance problem. Primary resistance to isoniazid has exceeded 4% for 2 of the last 3 years (Figure 5).

Nonadherence is a problem and can result in drug resistance. The best way to assure that patients take their drugs as prescribed is to utilize Directly Observed Therapy, Short-course (DOTS). DOTS requires that a health care worker or another designated person observe the patient take each dose of TB medication. CDC and the Kentucky Department for Health Services recommend that all TB patients be placed on DOTS which is available from all local health departments in the state. According to the World Health Organization (WHO), "DOTS is the biggest health breakthrough of this decade in terms of lives we will be able to save." Each year, over 1 million TB patients in 70 countries are treated using the DOTS strategy.⁴

REFERENCES

- CDC. Tuberculosis mortality United States, 1997. MMWR 1998; 47: 253-7.
- Valway SE, Sanchez MPC, Shinnick TF, et al. An outbreak involving intensive transmission of a virulent strain of *Mycobacterium Tuberculosis*. New Engl J Med 1998; 338: 633-9.
- 3 Cooperative Extension Service, Department of Sociology. Lexington: University of Kentucky, 1997.
- 4 WHO. DOTS breakthrough could save millions. TB Treatment Observer 1997; 3:1.

News... From the State Laboratory

Mycobacteriology Testing

On May 29, 1998, the state public health laboratory announced 3 new practices affecting mycobacteriology testing.

NEW SPECIMEN KITS

New kits are now available for submitting mycobacteriology specimens. The kits include a sterile 50 ml centrifuge tube, new mailer, and submission form. The new tube will allow the laboratory to process the sputa more efficiently. The specimen is to be collected directly into the centrifuge tube and the tube cap tightened securely. The new mailer will accommodate the size of the new tube, but the submission form is unchanged. Laboratory staff ask that you deplete your current supply of kits before requesting new ones.

AMPLIFIED MTD TESTING

The Division of Laboratory Services is now providing a transcription-mediated amplification (MTD) test for rapid detection of *Mycobacterium tuberculosis* (see December 1997 issue of *Kentucky Epidemiologic Notes and Reports*). The test is approved for only a narrow range of applications. Specifically, the Food and Drug Administration (FDA) has only approved the test for use with acid-fast bacillus smearpositive, concentrated sediments prepared from sputum, bronchial specimens, and tracheal aspirates from patients who have:

- not previously received any anti-tuberculosis drug;
- received fewer than 7 days of such therapy; or
- not received such therapy in the prior 12 months.

Because the FDA has not approved the test for urine, the laboratory is not running the MTD test on urine specimens at

this time. Because of the high cost of this procedure, MTD testing is only offered for the evaluation of patients being treated in Kentucky.

If laboratory staff observe acid-fast organisms in a smear from a patient not previously known to be positive for *M. tuberculosis*, they will request information about any treatment the patient may have received when they contact providers to report smear results. If the patient meets the specimen suitability criteria listed above, a MTD test will be run on the specimen as part of the standard protocol.

Providers will be notified of the MTD test results by telephone as soon as possible and the specimen will be cultured routinely. False negative and false positive results may occur with this test.

CHANGES IN REPORTING SMEAR RESULTS

The laboratory is now using a new reporting method to comply with recommended standards for reporting acid-fast smears. Test results will be reported as:

- ♦ No AFB (Acid-fast bacilli) Observed; or
- ♦ 1+; or
- ♦ 2+; or
- ♦ 3+; or
- **♦** 4+.

If you have questions concerning these changes, contact the Mycobacteriology Laboratory at 502-564-4446.

Submitted by: Donna Clinkenbeard, Division of Laboratory Services, dclinken@mail.state.ky.us or phone

Addresses

Depending on the package and its contents, specimens should now be mailed to 1 of 3 different addresses for the Division of Laboratory Services. Shipping labels received as part of specimen collection kits will be revised to reflect these changes.

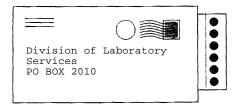
Letter Mail & Rabies Specimens:

Division of Laboratory Services 100 Sower Blvd., Ste 204 Frankfort KY 40601



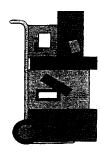


Newborn Screening Specimens:



All Other Specimens:

Division of Laboratory Services 100 Sower Blvd. North Loading Dock P.O. Box 2020 Frankfort KY 40602-2020





An answering service is now taking telephone calls during evenings, weekends, and holidays for the Division of Epidemiology and Health Planning. Calls will be screened for emergency needs and for messages that can be retrieved later or during regular work hours. Staff assigned to weekend and holiday call will contact the service twice a day for messages. Call 502-564-7243 for after hours reporting.

Notice of Upcoming Teleconferences... Immunization Training

by William L. Atkinson, MD, MPH

- Thursday, Sept. 10: Immunization Update (2.5 hrs)
- Thursday, Oct. 8: Adult Immunization: Strategies that Work (2.5 hrs)
 Canceled
- Thursday, November 19: Preparing for the Coming Influenza Pandemic (2.5 hrs.)

For more information call Mary Sanderson, Kentucky Immunization Program at 502-564-4478.



*** In Memoriam ***

Thomas E. Maxson, DrPH, Director, Division of Laboratory Services, died July 6, 1998. Dr. Maxson had been director since 1987. Contributions in his memory may be made to the Dr. Thomas Maxson Scholarship Fund, c/o APHL, 1211 Connecticut Avenue NW, Suite 608, Washington DC 20036.

OOPS

- Because of formatting differences between the internet version and the printed version, the July 1998 issue of *Kentucky Epidemiologic Notes & Reports* printed version contains errors. Table 1 in the Bloodborne Pathogens article on Page 3 is corrected below.
- Also, in the graph of Selected Reportable Diseases, page 5, the footnote, "** Not a verified count" refers to the cases of tuberculosis reported through May 1998.
- Please note on the Phone Directory, page 4, that reporting of HIV/AIDS cases is to be made during normal work hours and not to the answering machine.

We regret any inconvenience to our readers.

Table 1. Recommended postexposure prophylaxis for percutaneous or permucosal exposure to hepatitis B virus, United States.

Vaccination and antibody response status of exposed person	Treatment when source is: HBsAg* positive	Treatment when source is: HBsAg negative	Treatment when source is: Not tested or status unknown
Unvaccinated	HBIG† x 1; initiate HB vaccine series#	Initiate HB vaccine series	Initiate HB vaccine series
Previously vaccinated : Known responder¶	No treatment	No treatment	No treatment
Previously vaccinated: Known non-responder	HBIG x 2 or HBIG x 1 and initiate revaccination	No treatment	If known high-risk source, treat as if source were HBsAg positive
Previously vaccinated: Antibody response unknown	Test exposed person for anti-HBs*** 1 If adequate¶, no treatment 2 If inadequate¶, HBIG x1 and vaccine booster	No treatment	Test exposed person for anti-HBs 1 If adequate¶, no treatment 2 If inadequate¶, initiate revaccination

^{*} Hepatitis B surface antigen.

[†]Hepatitis B immune globulin; dose 0.06 mL/kg intramuscularly.

[#]Hepatitis B vaccine.

 $[\]P$ Responder is defined as a person with adequate levels of serum antibody to hepatitis B surface antigen (i.e., anti-HBs ≥ 10 mIU/mL); inadequate response to vaccination defined as serum anti-HBs < 10 mIU/mL.

^{**}Antibody to hepatitis B surface antigen.

KENTUCKY EPIDEMIOLOGIC NOTES & REPORTS

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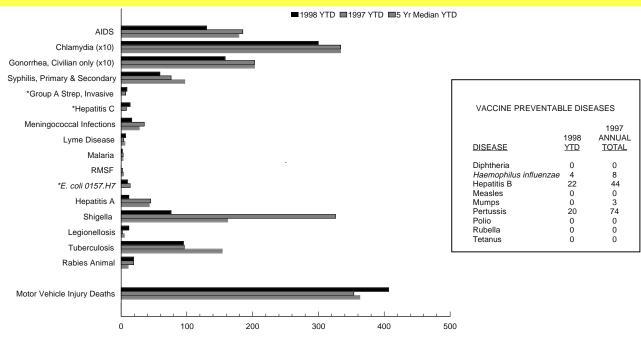
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Cases of Selected Reportable Diseases in Kentucky, Year to Date (YTD) Though June 1998



*Historical data are not available. For Disease numbers reflect only those cases that meet the CDC surveillance definition. Contributed by: Patricia Beeler, Surveillance & Investigations Branch.

For weekend, holiday, and emergency calls, please contact the on.

Kentucky Department for Public Health at 502-564-7243, otherwise report directly to your local health department.

RESULTS OF READERS' SURVEY

Nearly 200 people completed and returned the Reader's Survey from the February 1998 issue of *Kentucky Epidemiologic Notes and Reports*. Replies were received from physicians (47.8%), nurses (29.8%), infection control practitioners (20.2%), administrators (5.1%), and others. Respondents' work settings included hospitals or nursing homes (20.2%), local (19.1%) and state (2.8%) health departments, and universities (12.4%). Most who replied read *Notes and Reports* monthly (93.8%). Readers were about evenly divided between those who read every article (42.1%) and those who read selected articles (44.4%). Overall quality was judged "Excellent" (70.0%) or "Good" (30.0%).

When rating content and data (Table 1), readers gave higher marks to "Useful in my work" and "Interesting" than to "Relevant" and "Accurate." Many indicated the articles are "Clear" and of satisfactory length (Table 2). In rating the appearance, higher marks were received for "Readable type" than for other attributes (Table 3). We contacted a few survey respondents by telephone to learn more about readers' views. Those we talked with indicated they probably overlooked ratings such as "Accurate" (Table 1) and "Appealing layout" when completing the form (Table 3). In general, they told us that they are pleased with *Notes and Reports* and don't have problems with its graphics, layout or accuracy.

Readers want us to continue to focus on infectious or communicable diseases, with vital statistics reports rated second (Table 4). Fewer respondents were interested in chronic diseases, injury/violence prevention, and maternal and child health topics.

Thank you for helping us evaluate our newsletter. Now we are more confident that *Notes and Reports* is meeting the needs of the readership. Please send suggestions for content and/or layout to e-mail addresses: bsonnen@mail.state.ky.us or nyates@mail.state.ky.us. You may also reach us by telephone at 502-564-3418.

Table 1. Ratings of Content and Data			
Useful in my work	72.5%		
Interesting	68.5		
Relevant	58.4		

Table 2. Ratings of Literary Quality		
Clear	74.7%	
Satisfactory article length	64.0	
Appropriate	58.4	

Table 3. Ratings of Appearance			
Readable type	80.3%		
Clear graphics	52.8		
Attractive	48.3		
Appealing layout	34.3		

Table 4. Desired Topics		
Infectious diseases	80.9%	
Vital statistics reports	55.1	
Health policy & planning	53.9	
Environmental health	51.7	
Chronic diseases	49.4	
Injury/violence prevention	47.2	
Maternal & child health	41.0	